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## FIGURE 1A

ATGGGCCGCACTGGCCCGG GCGCTGCTGCTG CCTCTGCTGGCC CAGTGGCTCTG CGCGCC  
 M G A L A R A L L P L L A Q W L L R A  
 CCCCGAGCTGGCCCCCG CGCCCTTCACGC TGCCCCTCCGGG TGGCCGGGCCACGAAC  
 A P E L A P A P F T L P L R V A A A T N  
 CGCGTAGTTGCCACC CCGGGACCCGGG ACCCCTGCCAG CGCCACGCCAC GGCTTG  
 R V V A P T P G P G T P A E R H A D G L  
 GCGCTCGCCCTGGAGCCT GCCCTGGCGTCC CCCGGGGGCCGCCAAGTCTTG GCCATG  
 A L A L E P A L A S P A G A A N F L A M  
 GTAGACAACCTGCAGGGG GACTCTGGCCGC GGCTACTACCTG GAGATGCTGATC GGGACC  
 V D N L Q G D S G R G Y Y L E M L I G T  
  
 CCCCCG CAGAACGCTACAG ATTCTCGTTGAC ACTGGAAGCAGT AACTTGCCTG GCAGGA  
 P P Q K L Q I L V D T G S S N F A V A G  
  
 ACCCCG CACTCCTACATA GACACGTACTTT GACACAGAGAGG TCTAGCACATAC CGCTCC  
 T P H S Y I D T Y F D T E R S S T Y R S  
  
 AAGGGCTTGACGTCACA GTGAAGTACACA CAAGGAAGCTGG ACAGGGCTTCGTT GGGAA  
 K G F D V T V K Y T Q G S W T G F V G E  
  
 GACCTCGTCACCATCCCC AAAGGCTTCAT ACTTCTTTCTT GTCAACATTGCC ACTATT  
 D L V T I P K G F N T S F L V N I A T I  
  
 TTTGAATCAGAGAATTC TTTTGCCCTGGG ATTAATGGAAT GGAATACTTGGC CTAGCT  
 F E S E N F F L P G I K W N G I L G L A  
  
 TATGCCACACTTCCAAG CCATCAAGTTCT CTGGAGACCTTC TTGACTCCCTG GTGACA  
 Y A T L A K P S S S L E T F F D S L V T  
  
 CAAGCAAACATCCCCAAC GTTTCTCCATG CAGATGTGTGGA GCCGGCTTGCCTGTTGCT  
 Q A N I P N V F S M Q M C G A G L P V A  
  
 GGATCTGGACCAACGGA GGTAGTCTTGTCT TTGGGTGGAATT GAACCAAGTTG TATAAA  
 G S G T N G G S L V L G G I E P S L Y K  
  
 GGAGACATCTGGTATACC CCTATTAAGGAA GAGTGGTACTAC CAGATAGAAATT CTGAAA  
 G D I W Y T P I K E E W Y Y Q I E I L K  
  
 TTGGAAATTGGAGGCCAA AGCCTTAATCTG GACTGCAGAGAG TATAACCGCAGAC AAGGCC  
 L E I G G Q S L N L D C R E Y N A D K A  
  
 ATCGTGGACAGTGGCACC ACGCTGCTGCGC CTGGCCAGAAG GTGTTTGTGCG GTGGTG  
 I V D S G T T L L R L P Q K V F D A V V  
  
 GAAGCTGTGGCCCGCA TCTCTGATTCCA GAATTCTCTGAT GGTTTCTGGACT GGGTCC  
 E A V A R A S L I P E F S D G F W T G S  
  
 CAGCTGGCGTGGACG AATTGGAAACA CCTGGTCTTAC TTCCCTAAATCTCCATC  
 Q L A C W T N S E T P W S Y F P K I S I  
  
 TACCTGAGAGATGAGAAC TCCAGCAGGTCA TTCCGTATCACA ATCCCTGCCAG CTTTAC  
 Y L R D E N S S R S F R I T I L P Q L Y  
  
 ATTCAAGCCATGATGGGGGCCGCTGAAT TATGAATGTTAC CGATTGGCATT TCCCCA  
 I Q P M M G A G L N Y E C Y R F G I S P  
  
 TCCACAAATGCGCTGGTG ATCGGTGCCACG GTGATGGAGGGC TTCTACGTCATC TTGAC  
 S T N A L V I G A T V M E G F Y V I F D  
  
 AGAGCC CAGAACGAGGGTG GGCTTCGAGCG AGCCCTGTGCA GAAATTGCAGGT GCTGCA

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FIGURE 1B

R A Q K R V G F A A S P C A E I A G A A  
GTGTCTGAAATTCCGGGCCTTCTAACAGAGGATGTAGCCAGCAACTGTGTCCCCGCT  
V S E I S G P F S T E D V A S N C V P A  
CAGTCTTGAGCGAGCCCATTGTGGATTGTGCCTATGCGCTCATGAGCGTCTGTGGA  
Q S L S E P I L W I V S Y A L M S V C G  
GCCATCCTCCTGTCTTAATCGTCCTGCTGCTGCCGTTCCGGTGTCAAGCGTCGCC  
A I L L V L I V L L L P F R C Q R R P  
CGTGACCTGAGGTCGTCAATGATGAGTCCTCTGGTCAGACATCGCTGGAAATGAATA  
R D P E V V N D E S S L V R H R W K  
GCCAGGCCTGACCTCAAGCAACCATGAACCTCAGCTATTAAGAAAATCACATTCCAGGGC  
AGCAGCCGGGATCGATGGTGGCGCTTCTCCTGTGCCAACCGTCTCAATCTCTGTTCT  
GCTCCCAGATGCCTCTAGATTCACTGTCTTGATTCTGATTTCAGCTTCAAATC  
CTCCCTACTCCAAGAAAAATAATTAAAAAAAAACTTCATTCTAAACCAAAAAAAA  
AAAA

## FIGURE 2A

ATGGCCCAAGCCTGCCCTGGCTCCTGCTG TGGATGGCGCG GGAGTGCTGCCT GCCCAC  
 M A Q A L P W L L W M G A G V L P A H  
  
 GGCACCCAGCACGGCATCGGCTGCCCTG CGCAGCGGCCTG GGGGGCGCCCC CTGGGG  
 G T Q H G I R L P L R S G L G G A P L G  
  
 CTGCGGCTGCCCGGGAG ACCGACGAAGAG CCCGAGGAGCCC GGCCGGAGGGC AGCTTT  
 L R L P R E T D E E P E E P G R R G S F  
  
 GTGGAGATGGTGGACAAC CTGAGGGCAAG TCGGGGCAGGGC TACTACGTGGAG ATGACC  
 V E M V D N L R G K S G Q G Y Y V E M T  
  
 GTGGCAGCCCCCGCAG ACGCTAACATC CTGGTGGATACA GGCAAGCAGTAAC TTTGCA  
 V G S P P Q T L N I L V D T G S S N F A  
  
 GTGGGTGCTGCCCTCAC CCCTTCCTGCAT CGCTACTACCAAG AGGCAGCTGTCC AGCACA  
 V G A A P H P F L H R Y Y Q R Q L S S T  
  
 TACCGGGACCTCCGGAAG GGTGTGTATGTG CCCTACACCCAG GGCAAGTGGAA GGGGAG  
 Y R D L R K G V Y V P Y T Q G K W E G E  
  
 CTGGCACCACCTGGTA AGCATCCCCAT GGCCCCAACGTC ACTGTGCGTGCC AACATT  
 L G T D L V S I P H G P N V T V R A N I  
  
 GCTGCCATCACTGAATCA GACAAGTTCTTC ATCAACGGCTCC AACTGGGAAGGC ATCCTG  
 A A I T E S D K F F I N G S N W E G I L  
  
 GGGCTGGCTATGCTGAG ATTGCCAGGCTT TGTGGTGCTGGC TTCCCCCTAAC CAGTCT  
 G L A Y A E I A R L C G A G F P L N Q S  
  
 GAAGTGTGGCTCTGTC GGAGGGAGCATG ATCATTGGAGGT ATCGACCACTCG CTGTAC  
 E V L A S V G G S M I I G G I D H S L Y  
  
 ACAGGCAGTCTCTGGTAT ACACCCATCCGG CGGGAGTGGTAT TATGAGGTGATC ATTGTG  
 T G S L W Y T P I R R E W Y Y E V I I V  
  
 CGGGTGGAGATCAATGGA CAGGATCTGAAA ATGGACTGCAAG GAGTACAACAT GACAAG  
 R V E I N G Q D L K M D C K E Y N Y D K  
  
 AGCATTGTGGACAGTGGC ACCACCAACCTT CGTTTGCCTAACG AAAGTGTGAA GCTGCA  
 S I V D S G T T N L R L P K K V F E A A  
  
 GTCAAATCCATCAAGGCA GCCTCCTCCACG GAGAAGTCCCT GATGGTTCTGG CTAGGA  
 V K S I K A A S S T E K F P D G F W L G  
  
 GAGCAGCTGGTGTGCTGG CAAGCAGGCACC ACCCTTGGAAC ATTTCCAGTC ATCTCA  
 E Q L V C W Q A G T T P W N I F P V I S  
  
 CTCTACCTAATGGGTGAG GTTACCAACCAG TCCTTCCGCATC ACCATCCTCCG CAGCAA  
 L Y L M G E V T N Q S F R I T I L P Q Q  
  
 TACCTGCGGCCAGTGGAA GATGTGGCCACG TCCCAAGACGAC TGTTACAAGTTT GCCATC

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## FIGURE 2B

Y L R P V E D V A T S Q D D C Y K F A I  
TCACAGTCATCCACGGGC ACTGTTATGGGA GCTGTTATCATG GAGGGCTTCTAC GTTGTC  
S Q S S T G T V M G A V I M E G F Y V V  
TTTGAT CGGGCCCCGAAAA CGAATTGGCTTT GCTGTCAGCGCT TGCCATGTGCAC GATGAG  
F D R A R K R I G F A V S A C H V H D E  
TTCAGGACGGCAGCGGTG GAAGGCCCTTT GTCACCTGGAC ATGGAAGACTGT GGCTAC  
F R T A A V E G P F V T L D M E D C G Y  
AACATT CCACAGACAGAT GAGTCACCCCTC ATGACCATAGCC TATGTCATGGCT GCCATC  
N I P Q T D E S T L M T I A Y V M A A I  
TGCGCCCTTCATGCTGCCACTCTGCCTCATGGTGTGTCAG TGGCGCTGCCTC CGCTGC  
C A L F M L P L C L M V C Q W R C L R C  
CTGCAGCAGCATGAT GACTTTGCTGAT GACATCTCCCTG CTGAAGTGAGGA GGCCCA  
L R Q Q H D D F A D D I S L L K  
TGGCGAGAGATAGAGAT TCCCCTGGACCA CACCTCCGTGGT TCACCTTGGTCA CAAGTA  
GGAGACACAGATGGCACC TGTGGCCAGAGC ACCTCAGGACCC TCCCCACCCACC AAATGC  
CTCTGCCCTGATGGAGAA GGAAAAGGCTGG CAAGGTGGGTTG CAGGGACTGTAC CTGTAG  
GAAACAGAAAAGAGAAGA AAGAACGACTCT GCTGGCGGGAAAT ACTCTTGGTCAC CTCAA  
TTTAAGTCGGGAAATTCT GCTGCTTGAAC TTCAAGCCCTGAA CCTTTGTCCACC ATTCC  
TTAAATTCTCCAACCCAA AGTATTCTCTT TTCTTAGTTCA GAAGTACTGGCA TCACAC  
GCAGGTTACCTTGGCGTG TGTCCCTGTGGT ACCCTGGCAGAG AAGAGACCAAGC TTGTTT  
CCCTGCTGGCAAAGTCAGTAGGAGAGGAT GCACAGTTGCT ATTTGCTTGA GACAGG  
GACTGTATAAACAAAGCCT AACATTGGTCA AAGATTGCCTCT TGAAAAAAAAAAA AAA

FIGURE 3A

ATGCCCAAGCCCTGCCCTGGCTCCTGCTGTGGATGGCGCGGGAGTGCTGCCTGCCAC  
 M A Q A L P W L L L W M G A G V L P A H  
  
 GGCACCCAGCACGGCATCGGCTGCCCTGCGCAGCGGCCCTGGGGCGCCCCCTGGGG  
 G T Q H G I R L P L R S G L G G A P L G  
  
 CTGCGGCTGCCCGGGAGACCGACGAAGAGCCCGAGGAGCCC GGCGGGAGGGCAGCTTT  
 L R L P R E T D E E P E E P G R R G S F  
  
 GTGGAGATGGTGGACAACCTGAGGGCAAGTCGGGGCAGGGCTACTACGTGGAGATGACC  
 V E M V D N L R G K S G Q G Y Y V E M T  
  
 GTGGGCAGCCCCCGCAGACGCTAACATCCTGGTGATAAGGCAGCAGTAACTTGCA  
 V G S P P Q T L N I L V D T G S S N F A  
  
 GTGGGTGCTGCCCTGCATCGCTACTACCAAGGGCAGCTGTCCAGCACA  
 V G A A P H P F L H R Y Y Q R Q L S S T  
  
 TACCGGGACCTCCGGAAGGGTGTATGTGCCCTACACCCAGGGCAAGTGGAA  
 Y R D L R K G V Y V P Y T Q G K W E G E  
  
 CTGGGCACCGACCTGGTAAGCATCCCCATGGCCCAACGTCACTGTGCGTGCCAACATT  
 L G T D L V S I P H G P N V T V R A N I  
  
 GCTGCCATCACTGAATCA GACAAGTTCTTCATCAACGGCTCCAACTGGGAAGGCATCCTG  
 A A I T E S D K F F I N G S N W E G I L  
  
 GGGCTGGCTATGCTGAGATTGCCAGGCCTGACCACTCCCTGGAGCTTTCTTTGACTCT  
 G L A Y A E I A R P D D S L E P F F D S  
  
 CTGGTAAAGCAGACCCACGTTCCAACCTCTTCTCCCTGCAGCTTGTTGCTGGCTTC  
 L V K Q T H V P N L F S L Q L C G A G F  
  
 CCCCTCAACCAGTCTGAA GTGCTGGCCTCTGTCGGAGGGAGC ATGATCATTGGAGGTATC  
 P L N Q S E V L A S V G G S M I I G G I  
  
 GACCACTCGCTGTACACAGGCAGTCTCTGGTATACACCCATCGGGGGAGTGGTATTAT  
 D H S L Y T G S L W Y T P I R R E W Y Y  
  
 GAGGTCACTATTGTGCGG GTGGAGATCAATGGACAGGATCTGAAAATGGACTGCAAGGAG  
 E V I I V R V E I N G Q D L K M D C K E  
  
 TACAACTATGACAAGAGCATTGTGGACAGTGGCACCACCAACCTTCGTTGCCCAAGAAA  
 Y N Y D K S I V D S G T T N L R L P K K  
  
 GTGTTGAAGCTGCAGTC AAATCCATCAAGGCAGCCTCCACGGAGAAGTTCCTGAT  
 V F E A A V K S I K A A S S T E K F P D

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## FIGURE 3B

GGTTTCGGCTAGGAGAG CAGCTGGTGTGC TGGCAAGCAGGC ACCACCCCTGG AACATT  
 G F W L G E Q L V C W Q A G T T P W N I  
  
 TTCCCAGTCATCTCACTC TACCTAATGGGT GAGGTTACCAAC CAGTCCTCCGC ATCAC  
 F P V I S L Y L M G E V T N Q S F R I T  
  
 ATCCTTCCGCAGCAATAC CTGCGGCCAGTG GAAGATGTGGCC ACGTCCAAGAC GACTGT  
 I L P Q Q Y L R P V E D V A T S Q D D C  
  
 TACAAGTTGCCATCTCA CAGTCATCCACG GGCACTGTTATG GGAGCTGTTATC ATGGAG  
 Y K F A I S Q S S T G T V M G A V I M E  
  
 GGCTCTACGTTGCTTT GATCGGGCCCGA AAACGAATTGGC TTTGCTGTCAGC GCTTGC  
 G F Y V V F D R A R K R I G F A V S A C  
  
 CATGTGACGATGAGTTC AGGACGGCAGCG GTGGAAGGCCCT TTTGTCACCTTG GACATG  
 H V H D E F R T A A V E G P F V T L D M  
  
 GAAGACTGTGGCTACAAC ATTCCACAGACA GATGAGTCACCC CTCATGACCATA GCCTAT  
 E D C G Y N I P Q T D E S T L M T I A Y  
  
 GTCATGGCTGCCATCTGC GCCCTCTTCATG CTGCCACTCTGC CTCATGGTGTGT CAGTGG  
 V M A A I C A L F M L P L C L M V C Q W  
  
 CGCTGCCTCCGCTGCCTG CGCCAGCAGCAT GATGACTTTGCT GATGACATCTCC CTGCTG  
 R C L R C L R Q Q H D D F A D D I S L L  
  
 AAGTGAGGAGGCCATGG GCAGAAGATAGA GATTCCCCTGGA CCACACCTCCGT GGTTCA  
 K  
  
 CTTGGTCACAAGTAGGA GACACAGATGGC ACCTGTGGCCAG AGCACCTCAGGA CCCTCC  
 CCACCCACCAAATGCCTC TGCCCTGATGGA GAAGGAAAAGGC TGGCAAGGTGGG TTCCAG  
 GGACTGTACCTGTAGGAA ACAGAAAAGAGA AGAAAAGAAC TCTGCTGGCGGG AATACT  
 CTTGGTCACCTCAAATT AAGTCGGGAAAT TCTGCTGCTTGA AACTTCAGCCCT GAACCT  
 TTGTCACCATTCTTTA ATTCTCCAACC CAAAGTATTCTT CTTTTCTTAGTT TCAGAA  
 GTACTGGCATCACACGCA GGTTACCTTGGC GTGTGTCCTGT GGTACCCCTGGCA GAGAAG  
 AGACCAAGCTTCCC TGCTGGCAAAG TCAGTAGGAGAG GATGCACAGTTT GCTATT  
 TGCTT TAGAGACAGGGAC TGTATAACAAG CCTAACATTGGT GCAAAGATTGCC TCTTGA  
 ATTAAAAAAAAAAAAA AAAAAAAAAA

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FIGURE 4

ATGGCCCCAGCGCTGCA CTGGCTCCTGCT ATGGGTGGGCTC GGGATGCTGCC TGCCCAG  
 M A P A L H W L L L W V G S G M L P A Q  
 GGAACCCATCTGGCAT CCGGCTGCCCT TCGCAGCGGCC GGCAGGGCCACC CCTGGC  
 G T H L G I R L P L R S G L A G P P L G  
 CTGAGGCTGCCCGGGA GACTGACGAGGA ATCGGAGGAGCC TGGCCGGAGAGG CAGCTTT  
 L R L P R E T D E E S E E P G R R G S F  
 GTGGAGATGGTGGACAA CCTGAGGGGAAA GTCCGGCCAGGG CTACTATGTGGA GATGACC  
 V E M V D N L R G K S G Q G Y Y V E M T  
 GTAGG CAGCCCCCACAGACGCTCAACAT CCTGGTGGACAC GGGCAGTAGTAA CTTTGCA  
 V G S P P Q T L N I L V D T G S S N F A  
 GTGGGGCTGCCAACACCCCTTCCTGCA TCGCTACTACCA GAGGCAGCTGTC CAGCACA  
 V G A A P H P F L H R Y Y Q R Q L S S T  
 TATCGAGACTCCGAAA GGGTGTGATGT GCCCTACACCCA GGGCAAGTGGGA GGGGAA  
 Y R D L R K G V Y V P Y T Q G K W E G E  
 CTGGG CACCGACCTGGT GAGCATCCCTCA TGCCCCAACGT CACTGTGCGTGC CAACATT  
 L G T D L V S I P H G P N V T V R A N I  
 GCTGCCATCACTGAATC GGACAAGTTCTT CATCAATGGTTCAACTGGGAGGG CATCCTA  
 A A I T E S D K F F I N G S N W E G I L  
 GGCTGGCTATGCTGA GATTGCCAGGCC CGACGACTCTT GGAGCCCTTCTT TGACTCC  
 G L A Y A E I A R P D D S L E P F F D S  
 CTGGTGAAGCAGACCCA CATTCCCAACAT CTTTCCCTGCA GCTCTGTGGCGC TGGCTTC  
 L V K Q T H I P N I F S L Q L C G A G F  
 CCCCTCAACCAGACCGA GGC ACTGGCCTC GGTGGGAGGGAG CATGATCATTGG TGGTATC  
 P L N Q T E A L A S V G G S M I I G G I  
 GACCACTCGCTATAACAC GGGCAGTCTCTG GTACACACCCAT CCGGCGGGAGTG GTATTAT  
 D H S L Y T G S L W Y T P I R R E W Y Y  
 GAAGT GATCATTGTACG TGTGAAATCAA TGGTCAAGATCT CAAGATGGACTG CAAGGAG  
 E V I I V R V E I N G Q D L K M D C K E  
 TACAACCTACGACAAGAG CATTGTGGACAG TGGGACCACCAA CCTTCGTTGCC CAAGAAA  
 Y N Y D K S I V D S G T T N L R L P K K  
 GTATTGAAAGCTGCCGT CAAGTCCATCAA GGCAGCCTCC GACGGAGAAGTT CCCGGAT  
 V F E A A V K S I K A A S S T E K F P D  
 GGCTTTGGCTAGGGAGCAGCTGGTGTG CTGGCAAGCAGG CACGACCCCTTG GAACATT  
 G F W L G E Q L V C W Q A G T T P W N I  
 TTCCCAGTCATTCACT TTACCTCATGGG TGAAGTCACCAA TCAGTCCTTCCG CATCACC  
 F P V I S L Y L M G E V T N Q S F R I T  
 ATCCCTCCTCAGCAATA CCTACGGCCGGT GGAGGACGTGGC CACGTCCTTCAAGA CGACTGT  
 I L P Q Q Y L R P V E D V A T S Q D D C  
 TACAAGTTCGCTGTCTC ACAGTCATCCAC GGGCACTGTTAT GGGAGCCGTAT CATGGAA  
 Y K F A V S Q S S T G T V M G A V I M E  
 GGTTCATATGCGTCTT CGATCGAGCCG AAAGCGAATTGG CTTTGCTGTCAG CGCTTGC  
 G F Y V V F D R A R K R I G F A V S A C  
 CATGTGCACCGATGAGTT CAGGACGGCGGC AGTGGAAAGGTCC GTTTGTACGGC AGACATG  
 H V H D E F R T A A V E G P F V T A D M  
 GAAGACTGTGGCTACAA CATTCCCCAGAC AGATGAGTCACAC TTATGACCAT AGCCTAT  
 E D C G Y N I P Q T D E S T L M T I A Y  
 GTCATGGCGCCATCTG CGCCCTCTTCAT GTGCCACTCTG CCTCATGGTATG TCAGTGG  
 V M A A I C A L F M L P L C L M V C Q W  
 CGCTG CCTGCGTTGCC GCGCCACAGCA CGATGACTTGC TGATGACATCTC CCTGCTC  
 R C L R C L R H Q H D D F A D D I S L L  
 AAGTAAGGAGGCTCGTG GGCAGATGATGG AGACGCCCTGG ACCACATCTGGG TGGTCC  
 K  
 CTTGGTCACATGAGTT GGAGCTATGGAT GGTACCTGTGGC CAGACCACTCA GGACCC  
 CACCAACCTGCCAATGC TTCTGGCGTGAC AGAACAGAGAAA TCAGGCAAGCTG GATTACA  
 GGGCTTGCACCTGTAGG ACACAGGAGAGG GAAGGAAGCAGC GTTCTGGTGGCA GGAATAT  
 CCTTAGGCACCAAC TTGAGTTGGAAA TTGCTGCTTG AAAGCTCAGCCC TGACCC  
 CTGCC CAGCATCCCTTA GAGTCTCCAACC TAAAGTATTCTT TATGCTCTTCA GAAAGTAC  
 TGCGC TCATACTCAGGC TACCCGGCATGT GTCCCTGTGGTA CCCTGGCAGAGA AAGGGCC  
 AATCT CATTCCCTGCTG GCCAAAGTCAGC AGAAGAAGGTGA AGTTGCCAGTT GCTTTAG  
 TGATAGGACTGCAGAC TCAAGCCTACAC TGGTACAAAGAC TGCCTTGTGAGA TAAACAA  
 GAA

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**FIGURE 5**

1 MAQALPWLLWMGAGVLPAGHTQHGIRLPLRSGLGGAPLGLRLPRETDEE 50  
|| || || || . . . || | | | | | | | | | | | | | | | | | | | |  
1 MAPALHWLLLWVGSGMLPAQGTHLGIRLPLRSGLAGPPLGLRLPRETDEE 50  
  
51 PEEPGRGSFVEMVDNLRGKSGQGYVEMTVGSPPQTLNILVDTGSSNFA 100  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
51 SEEPGRGSFVEMVDNLRGKSGQGYVEMTVGSPPQTLNILVDTGSSNFA 100  
  
101 VGAAPHFLHRYYQRQLSSTYRDLRKGVYVPYTQGKWEGETDLSIPH 150  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
101 VGAAPHFLHRYYQRQLSSTYRDLRKGVYVPYTQGKWEGETDLSIPH 150  
  
151 GPNVTVRANIAAITESDKFFINGSNWEGLAYAEIARPDDSLPFFDS 200  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
151 GPNVTVRANIAAITESDKFFINGSNWEGLAYAEIARPDDSLPFFDS 200  
  
201 LVKQTHVPNLFLQLCGAGFPLNQSEVLASVGGSMIGGIDHSLYTGSLW 250  
| | | | : | | | | | | | | | | | | | | | | | | | | | | | | |  
201 LVKQTHIPNIFSLQLCGAGFPLNQTEALASVGGSMIGGIDHSLYTGSLW 250  
  
251 YTPIRREWYYEVIVRVEINGQDLKMDCKEINYDKSIVDGTTLRLPKK 300  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
251 YTPIRREWYYEVIVRVEINGQDLKMDCKEINYDKSIVDGTTLRLPKK 300  
  
301 VFEAAVKSIAASSTEKFPGFWLGEQLVCWQAGTPWNIFPVISLYLMG 350  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
301 VFEAAVKSIAASSTEKFPGFWLGEQLVCWQAGTPWNIFPVISLYLMG 350  
  
351 EVTNQSFRITILPQQYLRPVEDVATSQDDCYKFAISQSSTGTVMGAVIME 400  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
351 EVTNQSFRITILPQQYLRPVEDVATSQDDCYKFAVSQSSTGTVMGAVIME 400  
  
401 GFYVVFDRAKRIGFAVSACHVHDEFRTAAVEGPFTLDMEDCGYNIPQT 450  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
401 GFYVVFDRAKRIGFAVSACHVHDEFRTAAVEGPFTADMEDCGYNIPQT 450  
  
451 DESTLMTIAYVMAAICALFMLPLCLMVCQWRCLRCLRQQHDDFADDISLL 500  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
451 DESTLMTIAYVMAAICALFMLPLCLMVCQWRCLRCLRHQHDDFADDISLL 500  
  
501 K 501  
|  
501 K 501

FIGURE 6A

ATGGCTAGC ATGACTGGTGG A CAGCAAATGGGT CGCGGATCCACC CAGCACGGCATC CGG  
 M A S M T G G Q Q M G R G S T Q H G I R  
 CTGCCCTG CGCAGCGGCCTG GGGGGCGCCCCC CTGGGGCTGCGG CTGCCCGGGAG ACC  
 L P L R S G L G G A P L G L R L P R E T  
 GACGAAGAG CCCGAGGAGCCC GGCGGGAGGGC AGCTTGTGGAG ATGGTGGACAAC CTG  
 D E E P E E P G R R G S F V E M V D N L  
 AGGGGCAAG TCGGGGCAGGGC TACTACGTGGAG ATGACCGTGGC AGCCCCCGCAG ACG  
 R G K S G Q G Y Y V E M T V G S P P Q T  
 CTCAACATC CTGGTGGATAACA GGCAGCAGTAAC TTTGCAGTGGGT GCTGCCCGAAC CCC  
 L N I L V D T G S S N F A V G A A P H P  
 TTCTGCAT CGCTACTACCAAG AGGCAGCTGTCC AGCACATACCGG GACCTCCGGAAG GGC  
 F L H R Y Y Q R Q L S S T Y R D L R K G  
 GTGTATGTG CCTACACCCAG GGCAAGTGGAA GGGGAGCTGGC ACCGACCTGGTA AGC  
 V Y V P Y T Q G K W E G E L G T D L V S  
 ATCCCCCAT GGCCCCAACGTC ACTGTGGTGC AACATTGCTGCC ATCACTGAATCA GAC  
 I P H G P N V T V R A N I A A I T E S D  
 AAGTTCTTC ATCAACGGCTCC AACTGGGAAGGC ATCCTGGGCTG GCCTATGCTGAG ATT  
 K F F I N G S N W E G I L G L A Y A E I  
 GCCAGGCCT GACGACTCCCTG GAGCCTTCTTT GACTCTCTGGTA AAGCAGACCCAC GTT  
 A R P D D S L E P F F D S L V K Q T H V  
 CCCAACCTC TTCTCCCTGCAG CTTGTGGTGCT GGCTTCCCCCTC AACCAGTCTGAA GTG  
 P N L F S L Q L C G A G F P L N Q S E V  
 CTGGCCTCT GTGGAGGGAGC ATGATCATTGGA GGTATCGACCAC TCGCTGTACACA GGC  
 L A S V G G S M I I G G I D H S L Y T G  
 AGTCTCTGG TATACACCCATC CGGCGGGAGTGG TATTATGAGGTC ATCATTGTCGG GTG  
 S L W Y T P I R R E W Y Y E V I I V R V  
 GAGATCAAT GGACAGGATCTG AAAATGGACTGC AAGGAGTACAAC TATGACAAGAGC ATT  
 E I N G Q D L K M D C K E Y N Y D K S I  
 GTGGACAGT GGCACCACCAAC CTTCGTTGCC AAGAAAGTGTGTT GAAGCTGCAGTC AAA  
 V D S G T T N L R L P K K V F E A A V K  
 TCCATCAAG GCAGCCTCCTCC ACGGAGAAGTTC CCTGATGGTTTC TGGCTAGGAGAG CAG  
 S I K A A S S T E K F P D G F W L G E Q  
 CTGGTGTGC TGGCAAGCAGGC ACCACCCCTGG AACATTTCCCA GTCATCTCACTC TAC  
 L V C W Q A G T T P W N I F P V I S L Y  
 CTAATGGGT GAGGTTACCAAC CAGTCCTCCGC ATCACCATCCTT CCGCAGCAATAC CTG  
 L M G E V T N Q S F R I T I L P Q Q Y L  
 CGGCCAGTGG AAGATGTGCCA CGTCCCAAGACG ACTGTTACAAGT TTGCCATCTCAC AG

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FIGURE 6B

R P V E D V A T S Q D D C Y K F A I S Q  
TCATCCACGG GCACTGTTATGG GAGCTGTTATCA TGGAGGGCTTCT ACGTTGTCTTG AT  
S S T G T V M G A V I M E G F Y V V F D  
CGGGCCCGAA AACGAATTGGCT TTGCTGTCAGCG CTTGCCATGTGC ACGATGAGTTCA GG  
R A R K R I G F A V S A C H V H D E F R  
ACGGCAGCGG TGGAAGGCCCTT TTGTCACCTTGG ACATGGAAGACT GTGGCTACAACA TT  
T A A V E G P F V T L D M E D C G Y N I  
CCACAGACAG ATGAGTCATGA  
P Q T D E S \*

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FIGURE 7A

ATGGCTAGC ATGACTGGTGGGA CAGCAAATGGGT CGCGGATCGATG ACTATCTCTGAC TCT  
M A S M T G G Q Q M G R G S M T I S D S

CCGCGTGAA CAGGACGGATCC ACCCAGCACGGC ATCCGGCTGCC CTGCGCAGCGGC CTG  
P R E Q D G S T Q H G I R L P L R S G L

GGGGCGCC CCCCTGGGGCTG CGGCTGCCCCGG GAGACCGACGAA GAGCCCGAGGAG CCC  
G G A P L G L R L P R E T D E E P E E P

GGCCGGAGG GGCAAGCTTG TG GAGATGGTGGAC AACCTGAGGGGC AAGTCGGGCAG GGC  
G R R G S F V E M V D N L R G K S G Q G

TACTACGTG GAGATGACCGTG GGCAGCCCCCG CAGACGCTAAC ATCCTGGTGGAT ACA  
Y Y V E M T V G S P P Q T L N I L V D T

GGCAGCAGT AACTTTGCAGTG GGTGCTGCC CACCCCTTCCTG CATCGCTACTAC CAG  
G S S N F A V G A A P H P F L H R Y Y Q

AGGCAGCTG TCCAGCACATAC CGGGACCTCCGG AAGGGCGTGTAT GTGCCCTACACC CAG  
R Q L S S T Y R D L R K G V Y V P Y T Q

GGCAAGTGG GAAGGGGAGCTG GGCACCGACCTG GTAAGCATCCCC CATGGCCCCAAC GTC  
G K W E G E L G T D L V S I P H G P N V

ACTGTGCGT GCCAACATTGCT GCCATCACTGAA TCAGACAAGTTC TTCACTAACGGC TCC  
T V R A N I A A I T E S D K F F I N G S

AACTGGGAA GGCATCCTGGGG CTGGCTATGCT GAGATTGCCAGG CCTGACGACTCC CTG  
N W E G I L G L A Y A E I A R P D D S L

GAGCCTTTC TTTGACTCTCTG GTAAAGCAGACC CACGTTCCAAC CTCTCTCCCTG CAG  
E P F F D S L V K Q T H V P N L F S L Q

CTTTGTGGT GCTGGCTTCCCC CTCAACCAAGTCT GAAGTGCTGGCC TCTGTCGGAGGG AGC  
L C G A G F P L N Q S E V L A S V G G S

ATGATCATT GGAGGTATCGAC CACTCGCTGTAC ACAGGCAGTCTC TGGTATAACACCC ATC  
M I I G G I D H S L Y T G S L W Y T P I

CGGCAGGGAG TGGTATTATGAG GTCATCATTGTG CGGGTGGAGATC AATGGACAGGAT CTG  
R R E W Y Y E V I I V R V E I N G Q D L

AAAATGGAC TGCAAGGAGTAC AACTATGACAAG AGCATTGGAC AGTGGCACCAAC AAC  
K M D C K E Y N Y D K S I V D S G T T N

CTTCGTTTG CCCAAGAAAGTG TTTGAAGCTGCA GTCAAATCCATC AAGGCAGCCTCC TCC  
L R L P K K V F E A A V K S I K A A S S

ACGGAGAAG TTCCCTGATGGT TTCTGGCTAGGA GAGCAGCTGGTG TGCTGGCAAGCA GGC  
T E K F P D G F W L G E Q L V C W Q A G

ACCACCCCTT GGAAACATTTCC CAGTCATCTCAC TCTACCTAATGG GTGAGGTTACCAAC  
T T P W N I F P V I S L Y L M G E V T N

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FIGURE 7B

CAGTCCTTCC GCATCACCATCC TTCCGCAGCAAT ACCTGCGGCCAG TGGAAAGATGTGG CC  
Q S F R I T I L P Q Q Y L R P V E D V A

ACGTCCCCAAG ACGACTGTTACA AGTTTGCCATCT CACAGTCATCCA CGGGCACTGTTA TG  
T S Q D D C Y K F A I S Q S S T G T V M

GGAGCTGTTA TCATGGAGGGCT TCTACGTTGTCT TTGATCGGGCCC GAAAACGAATTG GC  
G A V I M E G F Y V V F D R A R K R I G

TTTGCTGTCA GCGCTTGCATG TGCACGATGAGT TCAGGACGGCAG CGGTGGAAGGCC CT  
F A V S A C H V H D E F R T A A V E G P

TTTGTACCT TGGACATGGAAG ACTGTGGCTACA ACATTCACAGA CAGATGAGTCATGA  
F V T L D M E D C G Y N I P Q T D E S \*

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## FIGURE 8A

ATGACTCAGCATGG TATTCGTCTGCC ACTGCGTAGCGG TCTGGTGGTGC TCCACTGGGT  
 M T Q H G I R L P L R S G L G G A P L G -  
  
 CTGCGTCTGCCCG GGAGACCGACGA AGAGCCGAGGA GCCCGGCCGGAG GGGCAGCTTT  
 L R L P R E T D E E P E E P G R R G S F -  
  
 GTGGAGATGGTGG CAACCTGAGGGG CAAGTCGGGCA GGGCTACTACGT GGAGATGACC  
 V E M V D N L R G K S G Q G Y Y V E M T -  
  
 GTGGGCAGCCCCC GCAGACGCTCAA CATCCTGGTGG A TACAGGCAGCAG TAACCTTGCA  
 V G S P P Q T L N I L V D T G S S N F A -  
  
 GTGGGTGCTGCC CCACCCCTTCCT GCATCGCTACTA CCAGAGGCAGCT GTCCAGCAC  
 V G A A P H P F L H R Y Y Q R Q L S S T -  
  
 TACCGGGACCTCCG GAAGGGCGTGT A TGTGCCCTACAC CCAGGGCAAGTG GGAAGGGGAG  
 Y R D L R K G V Y V P Y T Q G K W E G E -  
  
 CTGGGCACCGACCT GGTAAGCATCCC CCATGGCCCCAA CGTCACTGTGCG TGCCAACATT  
 L G T D L V S I P H G P N V T V R A N I -  
  
 GCTGCCATCACTGA ATCAGACAAGTT CTTCATCAACGG CTCCA ACTGGGA AGGCATCC  
 A A I T E S D K F F I N G S N W E G I L -  
  
 GGGCTGGCTATGC TGAGATTGCCAG GCCTGACGACTC CCTGGAGCCTTT CTTTGACTCT  
 G L A Y A E I A R P D D S L E P F F D S  
  
 CTGGTAAAGCAGAC CCACGTTCCCAA CCTCTTCTCCCT GCAGCTTGTGG TGCTGGCTTC  
 L V K Q T H V P N L F S L Q L C G A G F -  
  
 CCCCTCAACCAGTC TGAAAGTGGCTGGC CTCTGTCGGAGG GAGCATGATCAT TGGAGGTATC  
 P L N Q S E V L A S V G G S M I I G G I -  
  
 GACCACTCGCTGTA CACAGGCAGTCT CTGGTATA CACCC CATCCGGGGGA GTGGTATTAT  
 D H S L Y T G S L W Y T P I R R E W Y Y -  
  
 GAGGTCACTATTGT GCGGGTGGAGAT CAATGGACAGGA TCTGAAAATGGA CTGCAAGGAG  
 E V I I V R V E I N G Q D L K M D C K E  
  
 TACAACATGACAA GAGCATTGTGGA CAGTGGCACCAC CAACCTTCGTTT GCCCAAGAAA  
 Y N Y D K S I V D S G T T N L R L P K K -  
  
 GTGTTTGAAGCTGC AGTCAAATCCAT CAAGGCAGCCTC CTCCACGGAGAA GTTCCCTGAT  
 V F E A A V K S I K A A S S T E K F P D -  
  
 GGTTTCTGGCTAGG AGAGCAGCTGGT GTGCTGGCAAGC AGGCACCACCC TTGGAACATT  
 G F W L G E Q L V C W Q A G T T P W N I -  
  
 TTCCCAGTCATCTCACTCTACCTAAT GGGTGAGGTTAC CAACCA GTCCCT TCGCATCACC  
 F P V I S L Y L M G E V T N Q S F R I T -  
  
 ATCCTCCGCAGCA ATACCTGCGGCC AGTGGAAAGATGT GGCCACGTCCC AGACGACTGT  
 I L P Q Q Y L R P V E D V A T S Q D D C -

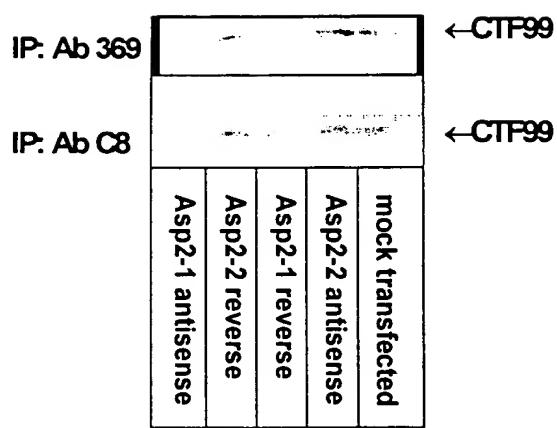
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## FIGURE 8B

TACAAGTTGCCAT CTCACAGTCATC CACGGGCACTGT TATGGGAGCTGT TATCATGGAG  
Y K F A I S Q S S T G T V M G A V I M E -  
GGCTTCTACGTTGT CTTTGATCGGGC CCGAAAACGAAT TGGCTTGCTGT CAGCGCTTGC  
G F Y V V F D R A R K R I G F A V S A C -  
CATTTAG  
H \*

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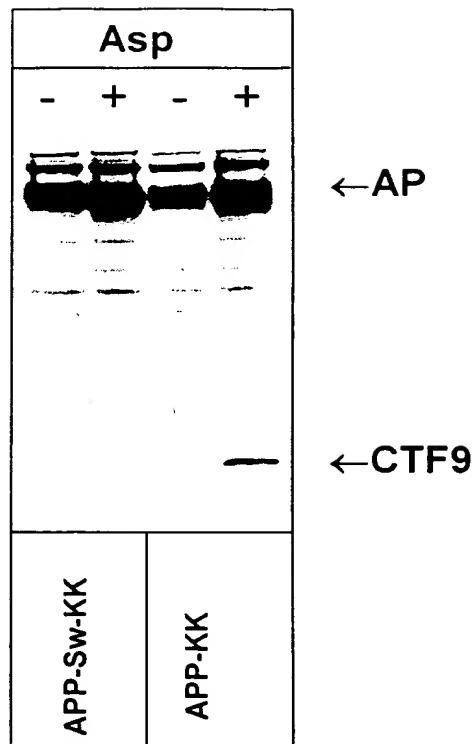
FIGURE 9



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FIGURE 10



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FIGURE 11

MAQALPWLLLWMGAGVLP AHLTQH GIRLPLRSGLGGAPLGLRLPRETDEE  
PEEPGRGSF VEMVDNLRGKSGQGYVEMTVGSPPQTLNILVDTGSSNFA  
VGAAPHFLHRYYQRQLSSTYRDLRKGVYVPTQGKWEGEGLGTDLVSIPH  
GPNVTVRANIAAITESDKFFINGSNWEGLAYAEIARPDDSLEPFFDS  
LVKQTHVPNLFSLQLCGAGFPLNQSEVLASVGGSMIIGGIDHSLYTGSLW  
YTPIRREWYYEVII VRVEINGQDLKMDCKE NYDKSIVDSGTTNLRLPKK  
VFEAAVKSIAASSTEKF PDGFWLGEQLVCWQAGTPWNIFPVISLYLMG  
EVTNQSFRITILPQQYLRPVEDVATSQDDCYKFAISQSSTGTVMGAVIME  
GFYVVFDRAKRIGFAVSACHVDEFRTAAVEGPFTLDMEDCGYNIPQT  
DES

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FIGURE 12

MAQALPWLLLWMGAGVLPAHGTQHGIRLPLRSGLGGAPLGLRLPRETDEE  
PEEPGRRGSFVEMVDNLRGKSGQGYVEMTVGSPPQTLNIVDVTGSSNFA  
VGAAPHFPLHRYYQRQLSSTYRDLRKGVYVPTQGKWEGETGDLVSIPH  
GPNVTVRANIAAITESDKFFINGSNWEGLAYAEIARPDDSLEPFFDS  
LVKQTHVPNLFSLQLCGAGFPLNQSEVLASVGGSMIIGGIDHSLYTGSLW  
YTPIRREWYYEVIIVRVEINGQDLKMDCKEYNYDKSIVDSGTTNLRLPKK  
VFEAAVKSIKAASSTEKFDPGFWLGEQLVCWQAGTPWNIFPVISLYLMG  
EVTNQSFRITILPQQYLRPVEDVATSQDDCYKFAISQSSTGTVMGAVIME  
GFYVVFDRAKRIGFAVSACHVDEFRTAAVEGPFTLDMEDCGYNIPQT  
DESHHHHHH